

# What Works Clearinghouse



## High School Math

July 2011

### Accelerated Math™

#### Effectiveness<sup>1</sup>

No studies of *Accelerated Math*™ that fall within the scope of the High School Math review protocol meet What Works Clearinghouse (WWC) evidence standards. The lack of studies meeting WWC evidence standards means that, at this time, the WWC is unable to draw any conclusions based on research about the effectiveness or ineffectiveness of *Accelerated Math*™ on high school students.

#### Program Description<sup>2</sup>

*Accelerated Math*™, published by Renaissance Learning, is a software tool used to customize assignments and monitor progress in math for students in grades 1–12. The *Accelerated Math*™ software creates individualized assignments aligned with state standards and national guidelines, scores student work,

and generates reports on student progress. The software can be used in conjunction with the existing math curriculum to add practice components and potentially aid teachers in differentiating instruction through the program's progress-monitoring data.

1. The studies in this report were reviewed using WWC Evidence Standards, Version 2.0 (see the WWC Procedures and Standards Handbook, Chapter III), as described in protocol Version 2.0 for the High School Math topic area.
2. The descriptive information for this program was obtained from a publicly available source: the program's website (<http://www.renlearn.com/am>, downloaded October 2010). The WWC requests developers to review the program description sections for accuracy from their perspective. Further verification of the accuracy of the descriptive information for this program is beyond the scope of this review. The literature search for this report includes documents publicly available by October 2010.

## Research

### The WWC identified four studies of *Accelerated Math*™ for high school students that were published or released between January 1988 and October 2010.

All four studies fall within the scope of the High School Math review protocol but do not meet WWC evidence standards.

- Three of the studies do not meet WWC evidence standards because they do not establish that the comparison group was comparable to the treatment group prior to the start of the intervention. In the Gaeddert study (2001), the groups are not shown to be equivalent in terms of the baseline grade level. Although Springer, Pugalee, and Algozzine (2007) was designed to be a randomized controlled trial (RCT), the analysis sample was adjusted after random

assignment such that it must be considered a quasi-experimental design (QED). The report indicates that the treatment and comparison groups were matched on baseline test scores, but no evidence of equivalence is provided. In the Ysseldyke and Tardew (2007) study, the groups are not shown to be equivalent on baseline test scores.

- One study, conducted by Hongerholt (2006), does not meet WWC evidence standards because only one classroom was assigned to the comparison condition. Therefore, the effect of *Accelerated Math*™ cannot be separated from the effect of the classroom.

## References

Studies that fall outside the High School Math review protocol<sup>3</sup> or do not meet evidence standards

Gaeddert, T. J. (2001). *Using Accelerated Math to enhance student achievement in high school mathematics courses* (Unpublished master's thesis). Friends University, Wichita, KS. The study does not meet WWC evidence standards because it uses a quasi-experimental design in which the analytic intervention and comparison groups are not shown to be equivalent.

Hongerholt, M. (2006). *The effect of the Accelerated Math program on the Minnesota Basic Skills Test scores of ninth graders* (Unpublished master's thesis). Winona State University, MN. The study does not meet WWC evidence standards because the measures of effectiveness cannot be attributed solely to the intervention—there was only one unit assigned to one or both conditions.

Springer, R., Pugalee, D., & Algozzine, B. (2007). Improving mathematics skills of high school students. *The Clearinghouse*, 81(1), 37–44. The study does not meet WWC evidence standards because it uses a randomized controlled trial design that either did not generate groups using a random process or had non-random allocations after random assignment and the subsequent analytic intervention and comparison groups are not shown to be equivalent.

### **Additional source:**

Semones, M., & Springer, R. (2005). *Struggling high school students using Accelerated Math pass AIMS test*. Wisconsin Rapids, WI: Renaissance Learning.

Ysseldyke, J., & Tardew, S. (2007). Use of a progress monitoring system to enable teachers to differentiate mathematics instruction. *Journal of Applied School Psychology*, 24(1), 1–28. The study does not meet WWC evidence standards because it uses a quasi-experimental design in which the analytic intervention and comparison groups are not shown to be equivalent.

3. *Accelerated Math*™ studies that fell below the grade range specified in the High School Math review protocol are listed in the Elementary School Math and Middle School Math intervention reports.